



Rocky Mountain
Remediation Services, L.L.C.
... protecting the environment



000058401

INTEROFFICE MEMORANDUM

DATE: September 14, 1995

TO: Administrative Record for Operable Unit Number 15

FROM: Dennis L. Schubbe, Sitewide Action, Bldg. 080, X8709

SUBJECT: CORRECTION ON AUGUST 2, 1995 STAKEHOLDER DATABASE REPORT
(STAKEHOLDER NO: 212) – DLS-014-95

The attached memorandum (PDG:WNF:14111) dated September 1, 1995 refers to an incorrect Operable Unit No. 15 (OU 15) meeting date stated as August 2, 1995. In addition, the meeting summary attached to the memorandum (PDG:WNF:14111) refers to an incorrect OU 15 meeting date of July 28, 1995. The correct OU 15 meeting date is July 27, 1995.

bll

Attachment:
As Stated

ADMIN RECORD

CORRES. CONTROL
INCOMING LTR NO.

02238 RF 95

DUE
DATE

ACTION

[illegible]

States Government

memorandum

Department of Energy
Rocky Flats Field Office

SEP 01 1995

PDG:WNF:14111

Stakeholder Data Base Report

Mr. Stephan Hahn, Program Manager, Environmental Restoration, Kaiser Hill

During discussion with Mr. Dennis Schubbe of Rocky Mountain Remedial Service and you on August 9, 1995, it was requested that I provide you a copy of the Stakeholder Data Base Report for the meeting of August 2, 1995, held at the Environmental Protection Agency Conference Center, 999 18th Street , Denver , Colorado.

A copy of that report is attached.

William A. Felt

William N. Fitch
Product Development Group

Attachment

CORRES. CONTROL	X	X
ADMN RECORD/080		
PATS/T130G		

Reviewed for Addressee
Corres. Control RFP

9/5/95 ~~3~~

DATE BY

Ref Ltr. #

DOE ORDER # 5480.1

Stakeholders Database Report

02-Aug-95

Action Name: Operable Unit 15 Public Comment Resolution

Stakeholder No: 212

Action Description: Discussion of the comments received at public meeting of June 17

Agenda included in summary? No

DOE Lead Person: Fitch, William N.

Phone: 966-4013

Contractor's Lead Person: Schubbe, Dennis L.

Phone: 966-8709

OU Nos: 15

Scheduled Completion Date: 7/28/95 Supporting Doc:

Date Accomplished: 7/28/95 Supporting Doc:

Location: EPA Conference Center, 999 18th St, Denver

Purpose of Action: To review and comment on responses to public comments to the Proposed Plan and to deal with such other items as may be brought by the government representatives.

Prior Related Actions(s): Public Meeting Held June 17; Final Proposed Plan dated May 10 and issued for public comment on May 17; meetings held on May 10 and prior dates with contractor and regulators.

Action No 1: 0 Date Accomplished: Location:

Action No 2: 0 Date Accomplished: Location:

Issues: See Summary

Commitments: See Summary

Conclusions: See Summary

Report Prepared by: Fitch, William N.

Phone: 966-4013

Report Date: 8/1/95

Attendees: Lead Person: William Fitch

DOE: William Fitch, Robert Birk

M and O Contractor: Steve Hahn, Kaiser Hill, Dennis Schubbe and William Katz, RMRS

Support Contractors:

Stakeholders: CDPHE - Carl Spreng / EPA - Mark Aguilar

Others:

Follow up Related Action(s):

Action No 1: 0 Scheduled Date: Date Accomplished:

Location:

Action No 2: 0 Scheduled Date: Date Accomplished:

Location:

Summary:

Issues: The meeting was held to discuss three issues:

(1) Resolution of a review report on ARARs prepared by SAIC

DOE had sent the report to EPA and CDPHE for their information. EPA had responded by letter noting discrepancies between the report conclusions and the action presented in the Proposed Plan. After discussion EPA stated that they did not desire a response to their letter. The State discussed the possibility of including a requirement in the ROD for IHSS 180 to be monitored for radiation, as a result of information cited in this SAIC report. The time frame was not discussed. The matter was concluded with Kaiser Hill agreeing to explore the possibility of conducting a routine Radiation Survey to establish the need to post IHSS 180 as a radiation area. (Room 104, Bldg 883). (The IHSS is within a Radiation Control Area, and is currently not posted as either a Radiation Area or a Contaminated Area)

(2) Resolution of Public Comments

No written comments have been received. Two people gave verbal comments at the Public Meeting. The group assembled for this (July 28) meeting reviewed written responses prepared by RMRS and suggested modifications. RMRS took the action to provide rewritten responses.

(3) Need for further action by the State to close OU 15 under their procedures.

Carl Spreng, the CDPHE representative at the meeting, discussed the need for a Closure Plan to go to public comment. This requirement had not been planned for in the items remaining to complete OU15 CAD/ROD. Carl agreed to continue discussions with other State personnel and to seek a resolution which would not impact the plan to complete the CAD/ROD by September 30.

Commitments:

1. Kaiser Hill agreed to explore the possibility of conducting a routine Radiation Survey to establish the need to post IHSS 180 as a radiation area. (Room 104, Bldg 883).
2. RMRS took the action to provide rewritten responses to the public comments.
3. Carl Spreng, CDPHE, agreed to continue discussions with other State personnel and to seek a resolution which would not impact the plan to complete the CAD/ROD by September 30.
4. CDPHE and EPA agreed to provide informal comments on the OU-15 Draft Record of Decision.
5. Kaiser-Hill agreed to provide DOE a copy of the Administrative Record Index.

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ROCKY FLATS - DEPARTMENT OF ENERGY
PUBLIC INFORMATION MEETING

Denver Marriott West
Salon D
1717 Denver West Parkway
Golden, Colorado

Wednesday, June 21, 1995

I N D E X

1

2 APPEARANCES:

3 Steve Tarlton (CDPHE)

4 Dr. Bill Fitch (DOE)

5 Carl Spreng (CDPHE)

6 Mark Aguilar (EPA)

7 John Wrapp (EG & G)

8 Art Haugh (DOE)

9 PUBLIC SPEAKERS:PAGE

10 Susan Hurst

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11 Paula Elofson-Gardine

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1 P R O C E E D I N G S

2 (Whereupon, the following consists of a partial
3 transcript of the proceedings held, as requested.)

4 MS. HURST: My name is Susan Hurst. I'm the
5 Publication Director for Environmental Information Network.

6 My comments--I had a concern about the way the
7 surveys were done of the room from insider information. I'd
8 like to know exactly where the surveys, the swipes, or
9 whatever you did, were taken to make sure that it's a
10 reasonable way that it was done. Is that possible?

11 DR. FITCH: Should I respond? Do you want me to
12 respond? All right, okay.

13 What you'll find is that the areas surveyed were
14 split into three zones, if you will.

15 MS. HURST: Right.

16 DR. FITCH: There was the IHSS itself, which we had
17 information was where waste was stored or treated. Then
18 there was a perimeter area outside of that, and then we had
19 pathways identified where if we had indications things could
20 have left, how we would have sampled those. Those grids and
21 things are shown in the Phase One report for each IHSS. So
22 there's a breakdown of where every sample was taken.

23 And in the--the thick report there gives you every
24 --I think every non-zero number we took. Is that--Dennis, is
25 that fair?

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1 MR. SCHUBEL: (inaudible response.)

2 MS. HURST: Great. And are those only available at
3 the reading room, or do you have to order it, or what?

4 DR. FITCH: It's in the reading rooms, and it's
5 available there, and we can make one available to you.

6 Otherwise--

7 MS. HURST: I'd really, really appreciate that.

8 DR. FITCH: Okay.

9 MS. HURST: And then I had a comment about the IHSS
10 areas being utilized for the privatization plan. I think
11 it's a bad idea while we've got storage out there.

12 And I had an additional comment. Oh, about the
13 lead. I would like to make a comment that in the past, they
14 used a lot of the lead-based paint to shield the radiation
15 that was already in the room, and my understanding is there's
16 several layers of this paint. And I'm wondering if possibly
17 the lead you're getting may be coming from the paint?

18 DR. FITCH: No. Let me first--why don't you--could
19 you repeat your comment for me, the one in particular, the
20 first one?

21 MS. HURST: Which part was that?

22 DR. FITCH: Okay. Perhaps--well, in terms of the
23 paint--

24 MS. HURST: Oh.

25 DR. FITCH: --some of the areas have been sealed--

1 MS. HURST: Um-hum.

2 DR. FITCH: --as opposed to painted. We did not
3 find any of the characteristic paints that were used to
4 identify radiation areas in--that are visible, shall we say.

5 MS. HURST: Are you--are you referring to like
6 markers or just wall paint?

7 DR. FITCH: The characteristic DOE way of
8 approaching radiation areas is to paint the area with a
9 certain color paint, and actually, to paint it with two
10 different colors, and so that when one wears off, the other
11 one shows through. I'm not a radiation expert, but that--

12 MS. HURST: No, my question is, is it in one little
13 area or is it the whole room?

14 DR. FITCH: These--these are one little--the areas,
15 the largest one here is eight-by-twelve or maybe twelve-by-
16 twenty, that room that had the grate in front. So those are
17 --these are small areas.

18 MS. HURST: Okay.

19 DR. FITCH: In some cases, they're big enough to
20 hold 255 gallon drums.

21 MS. HURST: Which one?

22 Susan, S-U-S-A-N, Hurst, H-U-R-S-T. You're going
23 to have fun with Paula's name.

24 MS. ELOFSON-GARDINE: My name is Paula Elofson-
25 Gardine, E-L-O-F-S-O-N-G-A-R-D-I-N-E. I'm the Executive

1 Director for the Environmental Information Network, and the
2 Chair for the DOE Rocky Flats Technical Review Group.

3 And we did have opportunity to have presentations
4 on this unit. Thank you. And overall, in a general sense, I
5 don't really have a problem with your current plan. It seems
6 to be reasonable. However, there is some concern about the
7 adequacy of the plans for NCPP, with the IHSS as in Building
8 447, 883 and 865, most particularly with building 447.

9 If you obtain a copy of the 1989 EG & G remote
10 sensing lab aerogamma survey, which is on the bottom of one
11 of our fliers, there are pretty severely high hot areas of
12 building shine from an area around the railroad spur, around
13 the 400 compound, that is hot with manmade gross count and
14 americium photo peaks that really should be taken into
15 consideration as external penetrating gamma radiation that
16 may be something you should be concerned about for people
17 that are being--I don't want to say lure or baited. Let's
18 say the plans to bring new victims on there, and we want to
19 make sure the people actually have informed consent and have
20 some kind of idea of what they may be exposed to.

21 That's all I have for now. Thanks.

22 MR. TARLTON: You can continue to submit written
23 comments on the document to either Carl Spreng at the
24 Colorado Department of Public Health and Environment or Mike
25 Konczal at the Department of Energy. You can see us for the

1 addresses, and that's through July 17th.

2 If there are no other formal comments, we'll
3 terminate the formal comment period and move on with our
4 agenda. Is that okay? Good. Thank you.

5 (Whereupon, the requested portion of the
6 proceedings was concluded.)

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REPORTER'S CERTIFICATE

I, JEANNIE STAKER, do hereby certify that I was present at and recorded the proceedings in the foregoing matter; that I thereafter reduced my recorded tapes to typewritten form, comprising the foregoing transcript; further, that the foregoing transcript is a full and accurate record of the proceedings in this matter on the date set forth.

Dated in Denver, Colorado, this 23rd day of June, 1995.

Jeannie Staker

Responsiveness Summary for Public comments on the Proposed Plan/Draft Modification of Colorado Hazardous Waste Permit for the Rocky Flats Plant Operable Unit 15: Inside Building Closures (May 10, 1995)

No Written Comments Were Received.

The Responsiveness Summary for Public comments from the June 21, 1995, Public Hearing for OU 15 is Presented below:

Susan Hurst, Publication Director for Environmental Information Network:

Question 1

I'd like to know exactly where the survey, the swipes, or whatever you did, were taken to make sure that it's a reasonable way that it was done.

Response to Question 1

The sample locations and methodologies are described in the Final Phase I RFI/RI Report Operable Unit 15 Inside Building Closures.

Question 2

And are those (Phase I RFI/RI Report) only available at the reading room, or do you have to order it, or what?

Response to Question 2

The report is available in the Public Reading Rooms. A copy of the report was made available to Ms. Hurst.

Question 3

And I'm wondering if possibly the lead you're getting may be coming from the paint?

Response to Question 3

It is possible that some of the lead detected within samples came from the painted floors. However, lead was detected in the source water (field blank samples). As stated in the Phase I RFI/RI Report, the lead detected in the IHSS samples was attributed to their presence in the source water used for the hot water rinsate sampling.

Question 4

No, my question is, is it (IHSSs) in one little area or is it the whole room?

Response to Question 4

The IHSSs are small areas. In some cases, they're only big enough to hold two 55 gallon drums.

Transcript clarification: the original transcript read "255 gallon drums". The sentence should have read: two 55 gallon drums.

Paula Elofson-Gardine, Executive Director for the Environmental Information Network, and the Chair for the DOE Rocky Flats Technical Review Group:

Comment 1

And overall, in a general sense, I don't really have a problem with your current plan. It seems to be reasonable.

Response to Comment 1

No response necessary.

General Comments

However, there is some concern about the adequacy of the plans for NCPP, with the IHSS as in Building 447, 883, and 865, most particularly with building 447.

Let's say the plans to bring new victims on there, and we want to make sure the people actually have informed consent and have some kind of idea of what they may be exposed to.

Response to General Comments

An IM/IRA has been prepared as part of the National Conversion Pilot Project (NCPP) and was submitted for public comment on December 5, 1994. A Public Hearing for the NCPP IM/IRA was held on January 11, 1995. The NCPP is outside the scope of the *Proposed Plan and Draft Modification of the Colorado Hazardous Waste Permit* for OU15. However, as indicated within the PP/DMRP and Phase I RFI/RI Report, the areas within buildings 447, 833, and 865, in which OU15 IHSSs are located, are managed per the RFETS Radiological Control Program in compliance with 10 CFR 835.

Draft

**CORRECTIVE ACTION DECISION/
RECORD OF DECISION**

OU15: Inside Building Closures

Draft

**CORRECTIVE ACTION DECISION/
RECORD OF DECISION DECLARATION**

Site Name and Location

Rocky Flats Environmental Technology Site (Rocky Flats) Operable Unit 15: Inside Building Closures
Golden, Jefferson County, Colorado

Statement of Basis and Purpose

This decision document presents the selected remedial action/corrective action for the Rocky Flats Operable Unit (OU) 15: Inside Building Closures, located near Golden, Colorado. The selected remedial action was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, the Colorado Hazardous Waste Act (CHWA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Resource Conservation Recovery Act (RCRA) is administered through the CHWA by the Colorado Department of Public Health and the Environment (CDPHE). OU15 was investigated and a Preferred Alternative was selected in compliance with the Federal Facility Agreement and Consent Order Inter-Agency Agreement (IAG) signed by the U.S. Department of Energy (DOE), the State of Colorado, and the U.S. Environmental Protection Agency (EPA) on January 22, 1991.

Description of the Selected Remedies

OU15: Inside Building Closures is composed of six Individual Hazardous Substance Sites (IHSSs). The preferred alternative for OU15 consists of the following actions: 1) Clean Closure under RCRA for all six of the OU15 IHSSs; 2) a No Action CERCLA decision for IHSSs 178, 211, and 217; and 3) a deferral of any CERCLA actions at IHSSs 179, 180, and 204 until final disposition of their respective buildings. RCRA closure certifications for the six IHSSs, signed by an independent registered professional engineer, have been approved by CDPHE. The No Action CERCLA decision for IHSSs 178, 211, and 217 is based upon the NCP, which provides for the selection of a No Action alternative when a site or OU is already in a protective state. OU15 IHSSs 179, 180, and 204 will be closed as IAG IHSSs and any future CERCLA action decisions will be made based upon the respective buildings, inclusive of the physical areas previously described as OU15 IHSSs. Evaluation of remedial alternatives and closure activities included waste minimization considerations.

Declaration Statement

DOE has determined that no remedial action is necessary to be protective of human health and the environment at IHSSs 178, 211, and 217. At IHSSs 179, 180, and 204, no remedial action is necessary to be protective of human health and the environment, because the Rocky Flats radiological control program is in compliance with Applicable or Relevant and Appropriate Requirements (ARARs)/To Be Considered (TBC) criteria and other identified protective standards. Because the remedy will not result in hazardous substances remaining onsite above health-based levels, a five-year review is not required.

Mark N. Silverman, Manager
U.S. Department of Energy, Rocky Flats Field Office

Date

Jack W. McGraw
Deputy Regional Administrator, Region VIII
U.S. Environmental Protection Agency

Date

Thomas P. Looby, Director, Office Of Environment,
Colorado Department of Public Health and Environment

Date

Section 1

Decision Summary

Site Name, Location, and Description

The Rocky Flats Environmental Technology Site is located north of the City of Golden in northern Jefferson County, Colorado. A copy of a site location map is attached (See Figure 1). Most Rocky Flats structures and all OU15 IHSSs are located within the industrialized area of Rocky Flats (See Figure 2), which occupies approximately 400 acres. Rocky Flats is surrounded by a buffer zone of approximately 6,150 acres (See Fig. 3).

Rocky Flats is located along the eastern edge of the southern Rocky Mountain region, immediately east of the Colorado Front Range. The site is located on a broad, eastward-sloping pediment that is capped by alluvial deposits of Quaternary age (i.e., Rocky Flats Alluvium). The tops of alluvial-covered pediments are nearly flat but slope eastward at 50 to 200 feet per mile (EG&G, 1992). At Rocky Flats, the alluvial-covered pediment surface is dissected by a series of east-northeast trending stream-cut valleys. The bases of the valleys containing Rock Creek, North and South Walnut Creeks, and Woman Creek lie 50 to 200 feet below the elevation of the older pediment surface. These valleys incise into the bedrock underlying alluvial deposits, but most bedrock is concealed beneath colluvial material accumulated along the gentle valley slopes.

Rock Creek, North and South Walnut Creeks, and Woman Creek are intermittent streams that flow generally from west to east and drain excessive water collected at Rocky Flats. Retention ponds are located in each of the creeks downstream of the main site. Rock Creek surface water flows northeast to the Rock Creek confluence with Coal Creek. Surface water within North and South Walnut Creeks that is not retained within retention ponds used for spill control flows to Great Western Reservoir. Surface water within Woman Creek, which is not diverted to Mower Reservoir, flows to Standley Lake.

The population, economics, and land use of areas surrounding Rocky Flats are described in a 1989 Rocky Flats vicinity demographics report prepared by the Department of Energy (DOE) (U.S. DOE, 1991a). Land use within 0 to 10 miles of Rocky Flats has been divided within the demographics report into residential, commercial, industrial, parks and open space, agricultural and vacant, and institutional classifications. Most residential use within five miles of Rocky Flats is located immediately northeast, east, and southeast of Rocky Flats. Commercial development is concentrated near residential developments north and southwest of Standley Lake and around Jefferson County Airport, located approximately three miles northeast of Rocky Flats. Industrial land use within five miles of the site is limited to quarrying and mining operations. Natural resources associated with the quarrying and mining activities include gravel and coal. Open-space lands are located northeast of Rocky Flats near the City of Broomfield and in small parcels adjoining major drainages and small neighborhood parks in the cities of Westminster and Arvada. The west, north, and east sides of Standley Lake are surrounded by open space. Irrigated and nonirrigated croplands, producing primarily wheat and barley, are located north and northeast of Rocky Flats near the cities of Broomfield, Lafayette, Louisville, and Boulder and in scattered parcels adjacent to the east boundary of the site. Several horse operations and small hay fields are located south of Rocky Flats. The demographic report characterizes much of the vacant land adjacent to Rocky Flats as rangeland.

Site History and Enforcement Activities

Rocky Flats is a government-owned, contractor operated facility, which was a part of the nationwide Nuclear Weapons Complex. The site was operated for the U.S. Atomic Energy Commission (AEC) from its inception during 1951 until the AEC was dissolved during 1975. At that time, responsibility for Rocky Flats was assigned to the Energy Research and Development Administration (ERDA), which was succeeded by DOE during 1977. Previous operations at Rocky Flats consisted of fabrication of nuclear weapons components from plutonium, uranium, and nonradioactive metals (i.e., stainless steel and beryllium).

Various studies were conducted at Rocky Flats to characterize environmental media and to assess the extent of radiological and chemical contaminant releases to the environment. The investigations performed before 1986 were summarized by Rockwell International (1986a). During 1986, two investigations were completed at the site. The first was the DOE Comprehensive Environmental Assessment and Response Program (CEARP) Phase I Installation Assessment (U.S. DOE, 1986). A number of sites that could potentially have adverse impacts on the environment were identified and designated as Solid Waste Management Units (SWMUs) within the CEARP of Rocky Flats. The second investigation involved a hydrogeologic and hydrochemical characterization of Rocky Flats (Rockwell International, 1986b).

On January 22, 1991, a Federal Facility Agreement and Consent Order (i.e., the Interagency Agreement (IAG)) was signed by DOE, EPA Region VIII, and the State of Colorado. The IAG assigned eight IHSSs to OU15 (178, 179, 180, 204, 211, 212, 215, and 217). However, IHSSs 212 and 215 are no longer included as part of OU15. IHSS-212 is now addressed in Part VIII of the Rocky Flats RCRA Mixed Residues Permit Modification (DOE, 1992), and IHSS 215 was transferred to OU9 in a Modification to Work of the IAG (DOE, 1991b) dated April 21, 1992. As required by the IAG, draft and final Work Plans, and draft and final RCRA Facility Investigation/Remedial Investigation (RFI/RI) Reports were prepared and submitted to the regulatory agencies. In addition, a Technical Memorandum was prepared to evaluate the need for sampling outside buildings containing OU15. The RFI/RI Report for OU15 was prepared in accordance with the IAG Statement of Work (Attachment 2 of the IAG) to fulfill IAG requirements for submittal of documentation and data necessary to determine if the risk from OU15 IHSSs warrants the need for remedial action.

The IAG scope of work was incorporated into the Colorado Hazardous Waste Permit (CHWP) for Rocky Flats. Upon signature of the Corrective Action Decision/Record of Decision (CAD/ROD) by DOE, EPA, and the State of Colorado, the State shall modify the CHWP for Rocky Flats to incorporate the CAD/ROD for OU15.

Highlights of Community Participation

Results of the Phase I RFI/RI for OU15 were presented to the public at the Rocky Flats Quarterly meeting on February 15, 1995 and at the Rocky Flats Citizens Advisory Board on April 20, 1995. The OU15 Proposed Plan and Draft Permit Modification were also presented to the Rocky Flats Technical Review Group on May 11, 1995. A public comment period was held concurrently for the *Proposed Plan and Draft Modification of CHWP for Rocky Flats OU15: Inside Building Closures*. The public comment period was held from May 17, 1995, to July 17, 1995. At a public hearing conducted on June 21, 1995, public comments and

questions regarding the *Proposed Plan and Draft Modification of CHWP for Rocky Flats OU15: Inside Building Closures* for OU15 were recorded and have subsequently been responded to within this ROD.

Scope and Role of Operable Unit 15 within Site Strategy

The six IHSSs comprising OU15 are located inside the Industrial Area (See Figure 2.), within buildings and are listed in the following table:

IHSS 178	Building 881, Drum Storage Area (Room 165)
IHSS 179	Building 865, Drum Storage Area (Room 145)
IHSS 180	Building 883, Drum Storage Area (Room 104)
IHSS 204	Building 447, RCRA Unit 45, Original Uranium Chip Roaster (Rooms 32 and 502)
IHSS 211	Building 881, RCRA Unit 26, Drum Storage Area (Room 266B)
IHSS 217	Building 881, RCRA Unit 32, Cyanide Bench Scale Treatment (Room 131C).

The scope, defined for OU15 IHSSs within Table 5 of the IAG, includes submittal of documentation and data required to close the regulated units in accordance with the IAG and the regulations. The RFI/RI work plans and reports were completed and submitted in accordance with the requirements specified within Table 5 and Table 6 of the IAG. In addition, a Technical Memorandum for field work outside buildings was prepared as defined within the approved RFI/RI work plan for OU15.

Site Characteristics

All OU15 IHSSs are located within buildings. Detailed information regarding OU15 IHSSs is included in the approved Phase I RFI/RI Report for OU15. The RCRA evaluation for OU15 consisted of comparing RCRA regulated substances managed in OU15 Sites to the RCRA clean closure Performance Standards defined in the CHWA permit for Rocky Flats. The CERCLA evaluation for OU15 consisted of comparing (screening) radionuclide data to appropriate regulatory criteria and standards, as well as to DOE and Rocky Flats guidance, and evaluating beryllium smear data. The screening was performed in four steps as described in section 5.2.1.3 of the RFI/RI. A brief description of each IHSS and the investigative procedures are listed below:

IHSS 178, Building 881, Drum Storage Area (Room 165). IHSS 178, which has a maximum storage capacity of five 55-gallon drums, was first used in 1953 when Building 881 operations began. The drums stored in the IHSS contained wastes contaminated with solvents and possibly low-level radioactivity. Thirty radiological smear samples were collected from the IHSS and three hot water rinsate samples were obtained from the IHSS, perimeter, and pathway areas. Final radiological surveys at each of the 30 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the

IHSS sampling. Also, none of the data collected during the CERCLA evaluation with respect to radionuclides and beryllium exceeded the screening criteria.

IHSS 179, Building 865, Drum Storage Area (Room 145). IHSS 179, which has a maximum storage capacity of ten 55-gallon drums, was first used for drum storage in 1970. The dimensions of the IHSS are approximately 8 feet by 12 feet. Drums stored in the IHSS contained oils, chlorinated solvents, low-level radioactive waste, and possibly beryllium. Twenty-three radiological and beryllium smear samples were collected from the IHSS and three hot water rinsate samples were obtained from the IHSS, perimeter, and pathway areas. Final radiological surveys at each of the 23 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the IHSS sampling. Also, none of the data collected during the CERCLA evaluation with respect to radionuclides and beryllium exceeded the screening criteria.

IHSS 180, Building 883, Drum Storage Area (Room 104). IHSS 180, which has a maximum storage capacity of thirty 55-gallon drums, measures 10 feet by 16 feet and was first used for drum storage in 1981. Drums stored in the IHSS contained oils contaminated with solvents, uranium and beryllium. Forty-nine radiological and beryllium smear samples were collected from the IHSS and four hot water rinsate samples were obtained from the IHSS, perimeter, and pathway areas. Final radiological surveys at each of the 49 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the IHSS sampling. The data collected during the CERCLA evaluation did not detect radionuclides in the hot water rinsate samples above the permissible levels and none of the post-rinsate smear samples exhibited total alpha or beta activity exceeding the permissible levels. However, seven of the sampling areas surveyed for beta dose-rate exceeded the established screening criteria limit of 2.5 mrem/hr. An evaluation based on occupational exposure showed total effective dose equivalents below 5 rem/yr.

IHSS 204, Building 447, RCRA Unit 45, Original Uranium Chip Roaster (Rooms 32 and 502). IHSS 204, the Original Uranium Chip Roaster, was used historically to oxidize uranium chips coated with small amounts of oils and coolants, converting the elemental uranium to uranium oxide. The unit is cylindrical with a diameter of 5 feet 6 inches and a height of 7 feet 4 inches. The inlet for the unit is located in Room 502 and the outlet is located directly downstairs in Room 32. No hazardous constituents have been treated in this unit since January 1988, when the uranium chips processed in the unit ceased to be coated with oils and coolants. A total of seventy-seven radiological smear samples were collected from the IHSS (rooms 31, 32, 501, and 502; chip roaster; and wash rack/drum washing basin in room 501). Seven hot water rinsate samples were obtained from the IHSS. No RCRA-regulated constituents of regulatory concern were identified in the IHSS sampling. No radionuclides detected in the hot water rinsate samples from IHSS 204 exceeded the permissible radionuclide levels. The prerinsate smear samples from the floor surfaces in Rooms 32 and 502 and the outside surfaces of the Chip Roaster inlet and outlet confirmed the presence of radiological contamination at IHSS 204. Rooms 32 and 502 are posted and managed as radiological areas.

IHSS 211, Building 881, RCRA Unit 26, Drum Storage Area (Room 266B). IHSS 211, which has a maximum storage capacity of twenty-nine 55-gallon drums, was first used as a drum storage area in 1981. The dimensions of the IHSS are approximately 10 feet by 20 feet. The wastes stored in the unit have historically included low-level radioactive combustibles (rags, wipes, etc.), metals, glass and materials which contained solvents and/or metals

generated by laboratories in the building. Thirty-two radiological smear samples were collected from the IHSS and three hot water rinsate samples were obtained from the IHSS, perimeter, and pathway areas. Final radiological surveys at each of the 32 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the IHSS sampling. Also, none of the data collected during the CERCLA evaluation with respect to radionuclides exceeded the screening criteria.

IHSS 217, Building 881, RCRA Unit 32, Cyanide Bench Scale Treatment (Room 131C). IHSS 217 consists of a 4 feet by 5 feet painted metal fume hood and laboratory table, three 4-liter polyethylene bottles, a glass beaker and a chlorine-specific ion electrode. The unit was used as a bench scale treatment process to convert cyanide to cyanate. Thirteen radiological smear samples were collected from the IHSS and one hot water rinsate sample was obtained from the IHSS. Final radiological surveys at each of the 13 initial smear sample locations were performed. No RCRA-regulated constituents of regulatory concern were identified in the IHSS verification sampling. Also, none of the data collected during the CERCLA evaluation with respect to radionuclides exceeded the screening criteria.

Summary of Site Risks

The risks to human health and the environment associated with the OU15 IHSSs were characterized as part of the OU15 RFI/RI, which was completed in accordance with the requirements presented in the IAG and specifically identified in the Final Phase I RFI/RI Work Plan for OU15. A detailed discussion of the methods and results is presented in the Final Phase I RFI/RI Report. To evaluate risks to workers inside the buildings, the results of the sampling and analysis were compared to potential Applicable or Relevant and Appropriate Requirements (ARARs) and applicable protective standards termed To Be Considered (TBC) criteria. The potential ARARs and TBCs were approved in the Final Phase I RFI/RI Work Plan for OU15.

For OU15, ARARs and protective standards were identified for both hazardous constituents (e.g., spent solvents, metals) and radionuclides. The ARAR used to evaluate hazardous constituents were the RCRA clean closure performance standards (6 Colorado Code of Regulations 1007-3, Section 265.111), which specify that the IHSSs must be closed in a manner that protects human health and the environment. RCRA is administered through the CHWA by the Colorado Department of Public Health and the Environment. The standards were satisfied when analytical results from the samples collected at each IHSS exhibited no traces of hazardous constituents historically managed in the IHSS.

Upon further review of the potential ARARs and TBCs approved in the Final Phase I RFI/RI Work Plan for OU15, it was determined that within the OU15 CAD/ROD, 10 Code Of Federal Regulation (CFR) 835 is recognized as a Protective Standard not as an ARAR. Protection against radiation (10 CFR 20, APP. B) is referenced in 10 CFR 835 and therefore is not specified as a Protective Standard or as an ARAR in the OU15 CAD/ROD. Protective Standards for occupational radiation protection (10 CFR 835) are not promulgated as environmental laws and therefore are not considered ARARs per EPA guidance within the NCP.

In order to protect individuals at DOE sites and facilities from exposure to radiation and radioactive materials, DOE established practices for the conduct of radiological operations in

DOE orders. The radiation protection standards for workers were subsequently promulgated as a Federal regulation in 10 CFR 835, under the authority of the Atomic Energy Act.

The results of visual inspections and sampling and analytical results demonstrate that the IHSSs are in compliance with the ARARs specified for hazardous constituents. No hazardous constituents associated with the management of wastes at OU15 were detected in the samples from the IHSSs.

IHSSs 178, 211, and 217 meet the Federal occupational radiation protection standards and pose no unacceptable risk to workers. Based on the radionuclides levels present at these IHSSs, specific radiological controls are not necessary to meet the worker dose limit standards. IHSSs 179, 180, and 204 are located within radiological control areas, and subject to the procedures which are a part of the Rocky Flats Radiological Control Program in compliance with the protective standards for radionuclides.

The results of the sampling and analysis, along with the review of historical records and the visual inspections, indicate that there have not been releases of either hazardous constituents or radiological contamination to the environment external to the buildings containing the OU15 IHSSs. The radiological control program for IHSSs 179, 180, and 204 will assure that no contaminants are released from the buildings. Therefore, these three IHSSs pose no risk to human, plant and animal populations outside of their respective buildings.

Selected Remedy

The preferred alternative proposed in this plan for OU15 consists of the following actions: 1) Clean Closure under RCRA for all six of the OU15 IHSSs; 2) a No Action CERCLA decision for IHSSs 178, 211, and 217; and 3) a deferral of any actions at IHSSs 179, 180, and 204 until final disposition of their respective buildings.

Clean closure under RCRA can be concluded since all six IHSSs meet the clean closure requirements of the Rocky Flats RCRA Permit. RCRA closure certifications for the six IHSSs, signed by an independent registered professional engineer, have already been submitted to CDPHE. The No Action CERCLA decision for IHSSs 178, 211, and 217 is based upon the NCP, which provides for the selection of a No Action alternative when a site or OU is already in a protective state. IHSSs 179, 180, and 204 are within radiological control areas at Rocky Flats and actions at these physical areas are deferred until final disposition of the buildings in which they are located. All OU15 IHSSs will be closed with respect to RCRA and CERCLA. Any future CERCLA action decisions will be made based upon the respective buildings, inclusive of the physical areas previously described as OU15 IHSSs.

Explanation of Significant Changes

No changes in the selected remedy have been made since the release of the *Proposed Plan and Draft Modification of Colorado Hazardous Waste Permit for Rocky Flats Environmental Technical Site Operable Unit 15: Inside Building Closures*.

Appendix - References

EG&G, 1992: EG&G Rocky Flats, Inc., "Phase I Geologic Characterization Data Acquisition - Surface Geologic Mapping of the Rocky Flats Plant and Vicinity, Jefferson and Boulder Counties, Final Report," Golden, Colorado, March 1992.

Rockwell International, 1986a: Rockwell International, "Annual Environmental Monitoring Report, January-December 1985," Golden, Colorado: Rockwell International, Rocky Flats Plant, Report RFP-ENV-85, 1986.

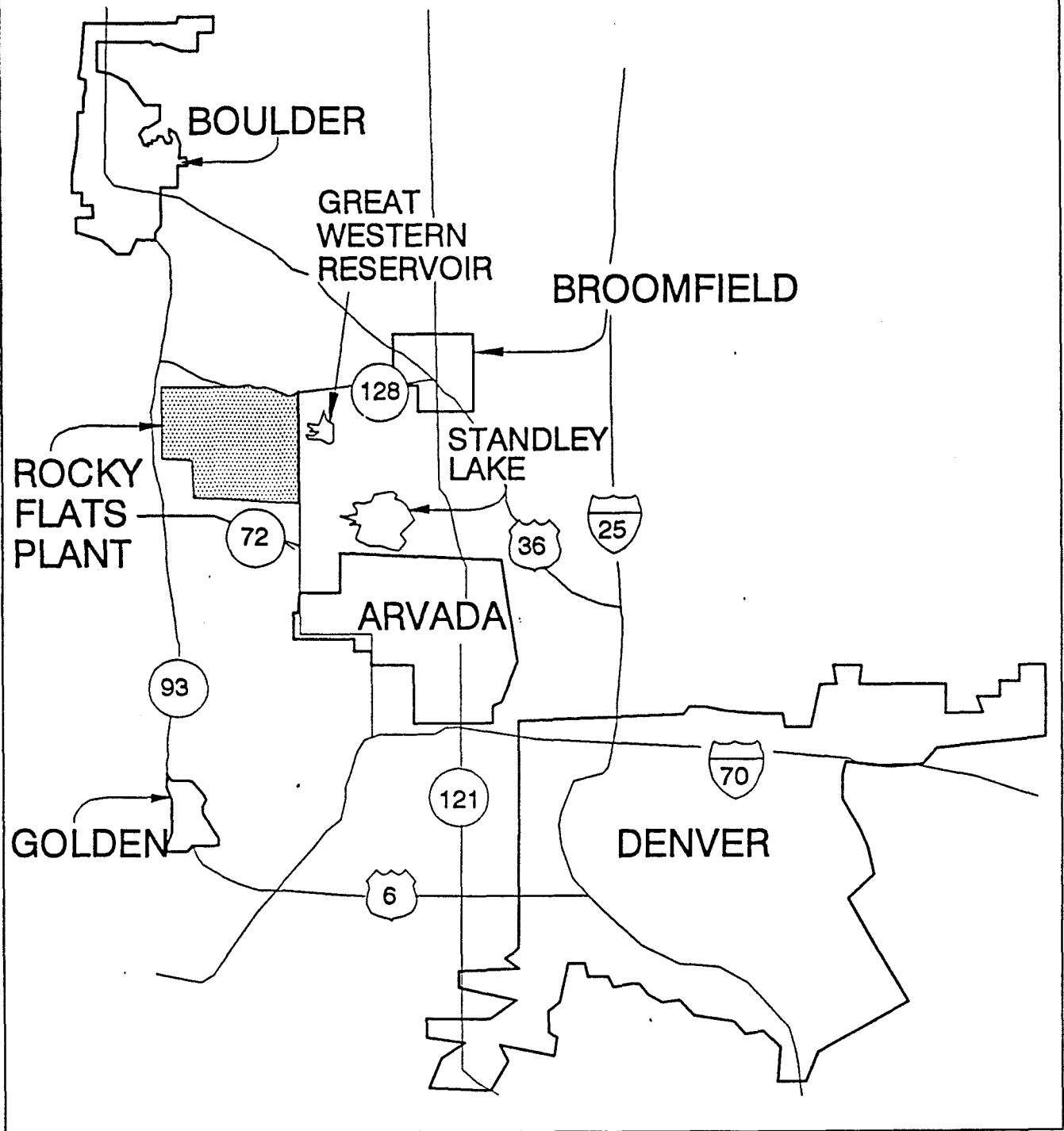
Rockwell International, 1986b: Rockwell International, "Resource Conservation and Recovery Act Part B - Post Closure Care Permit Application for U.S. Department of Energy, Rocky Flats Plant, Hazardous and Radioactive Mixed Wastes," U.S. Department of Energy, unnumbered report, 1986.

U.S. DOE, 1986: U.S. Department of Energy, "Comprehensive Environmental Assessment and Response Program Phase I: Draft Installation Assessment, Rocky Flats Plant," Washington, D.C., DOE unnumbered draft report, 1986.

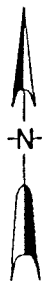
U.S. DOE, 1991a: U.S. Department of Energy, "1989 Population, Economic, and Land Use Data Base for the Rocky Flats Plant, Golden, Colorado," Washington, D.C., DOE, in press, 1991.

U.S. DOE, 1991b: U.S. Department of Energy, "Federal Facility Agreement and Consent Order (Interagency Agreement [IAG], DOE, EPA, and CDH)," Washington, D.C., January 22, 1991.

U.S. DOE, 1992: U.S. Department of Energy, "State RCRA Permit Modification Request No. 8 for Mixed Residues," Rocky Flats Plant, ID No. CO7890010526, Permit No. 91-09-30-01, June 1992.



0 2.5 5
APPROXIMATE SCALE: 1" = 5 MILES



**FIGURE 1
SITE LOCATION MAP**

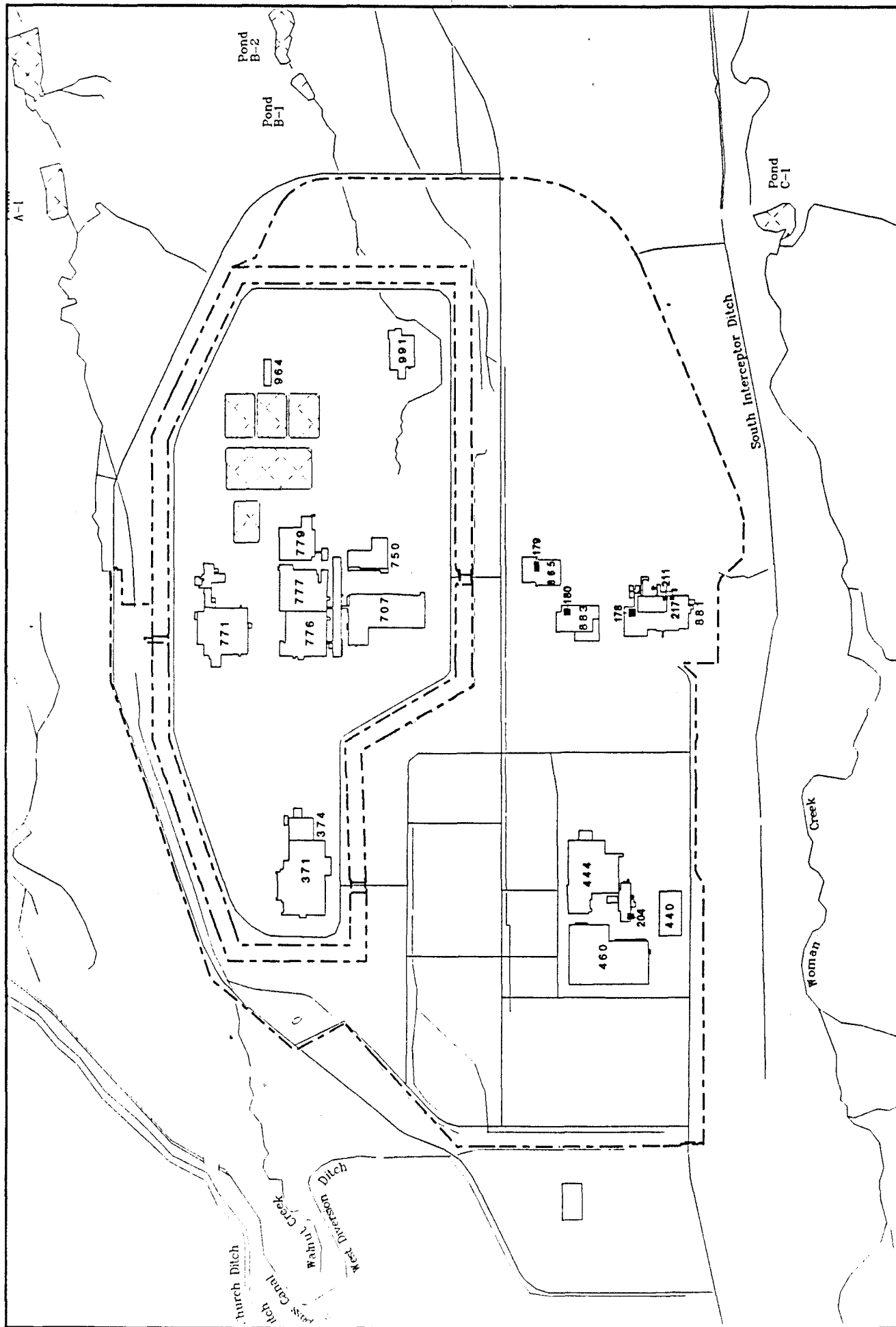


Figure 2 Operable Unit 15: Inside Building Closures

DATA SOURCE: Individual Hazardous Substance Sites derived from the Historical Release Report and Operable Unit Workplan

Legend:

- Streams, ditches, and other drainage features
- Security fence
- Paved road
- Individual Hazardous Substance Sites (IHSS)
- Lakes and ponds
- Buildings or other structures

Scale: 0 to 1000 feet

North Arrow

Figure 3

- ROAD CLASSIFICATION**
- Heavy-duty
 - Medium-duty
 - Light-duty
 - Unimproved dirt
- Rocky Flats Plant boundary
- Streams, ditches, and other drainage features
- Ponds and lakes
- Buildings and other structures



Scale - 1:10,000
1 inch = 1 mile



Rocky Flats Plant
Colorado State
Denver, Colorado

Prepared by:

Rocky Flats Plant

P.O. Box 404

Durham, Colorado 80402-0404



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**PROPOSED PLAN AND DRAFT MODIFICATION OF
THE COLORADO HAZARDOUS WASTE PERMIT
FOR THE ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
OPERABLE UNIT 15: INSIDE BUILDING CLOSURES**

United States Department
of Energy (DOE)

Jefferson County, Colorado

May 10, 1995

DOE Announces the Preferred Alternative to Address OU15, Inside Building Closures

The responsibility for cleanup of the Rocky Flats Environmental Technology Site (Rocky Flats) (formerly known as the Rocky Flats Plant) has been assigned to the United States Department of Energy (DOE). The site is located north of Golden, Colorado in Jefferson County.

Cleanup at Rocky Flats is being administered under both the *Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)*¹ and the *Resource Conservation and Recovery Act (RCRA)*. The specific requirements and responsibilities for Rocky Flats cleanup are outlined in the *Interagency Agreement (IAG)* between DOE, the United States Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE).

The subject of this document, which is a combination Proposed Plan and Draft Hazardous Waste Permit Modification, is Rocky Flats *Operable Unit 15 (OU15)*, Inside Building Closures. OU15 is composed of *Individual Hazardous Substance Sites (IHSSs)* 178, 179, 180, 204, 211 and 217. These IHSSs are small areas or facilities that were historically used to store or treat hazardous wastes and are located within large buildings at Rocky Flats.

The purpose of the Proposed Plan is to announce DOE's *preferred alternative* for OU15. The Proposed Plan serves as the basis for the *Record of Decision (ROD)* for OU15. The Draft Permit Modification is used to incorporate remedial action decisions at Rocky Flats into the site's RCRA Permit. CDPHE issues the Final Hazardous Waste Permit Modification once the remedial decision process is completed. The gray-shaded information boxes included throughout this document are provided to assist the public in their review and address some of the key items covered in the document.

What is a Proposed Plan?

The CERCLA process for site cleanup is composed of a series of steps that begin with a preliminary assessment of a site (or operable unit) and end with cleanup and closure of the site. One of the intermediate steps in this sequence is the preparation of a Proposed Plan. The objective of the Proposed Plan is to provide an opportunity for public participation in the cleanup process. The public is invited to comment on the results of the investigations and studies completed and on the preferred alternative proposed to address the site. Responses to public comments are later provided with the Record of Decision, which documents the remedial plan chosen for the site. This Proposed Plan applies only to Operable Unit 15, Inside Building Closures.

The preferred alternative proposed in this plan for OU15 consists of the following actions: 1) Clean Closure under RCRA for all six of the OU15 IHSSs; 2) a No Action CERCLA decision for IHSSs 178, 211, and 217; and 3) a deferral of any actions at IHSSs 179, 180, and 204 until final disposition of their respective buildings. Clean closure under RCRA can be achieved since sampling results from all of the six OU15 IHSSs showed compliance with the clean closure requirements of the Colorado Hazardous Waste Permit for Rocky Flats. Closure certifications for the six IHSSs, signed by an independent registered professional engineer, have already been submitted to CDPHE.

The results of investigations performed at the six OU15 IHSSs have shown that no remedial actions are required to protect human health and the environment at IHSSs 178, 211, and 217 under their current use.

At IHSSs 179, 180, and 204, no remedial actions are required to protect human health and the environment as long as the Rocky Flats radiological control program as it exists continues to be implemented. There have been no documented releases outside the OU15 IHSSs and the IHSSs are maintained in a protective state for the individuals who work in and around them through the implementation of the Rocky Flats radiological control program.

This Proposed Plan covers:

Public Involvement Process	p. 2
Site Background	p. 3
Summary of Site Risks	p. 4
Summary of Remedial Alternative	p. 5
Glossary	p. 6

¹ Words shown in *italics* on the first mention are defined in the glossary at the end of this Proposed Plan.

In accordance with the IAG and EPA guidance, a No Action decision is appropriate for a site or operable unit that is already in a *protective state*. IHSSs 178, 211, and 217 are located within Building 881 at Rocky Flats and are not in areas requiring postings or controls under the Rocky Flats radiological control program for worker protection. Therefore, a No Action CERCLA decision is appropriate for these IHSSs, since they do not require any actions or controls in order to be maintained in a protective state.

IHSSs 179, 180, and 204 are located within radiological control areas and subject to the radiological control program requirements. While the Rocky Flats radiological control program is in effect, these IHSSs require no further action under CERCLA. The radiological control program will remain in effect for these IHSSs until final disposition of their respective buildings.

PUBLIC INVOLVEMENT PROCESS

A public comment period will be held for the Proposed Plan and Draft Permit Modification. The public is also encouraged to comment on the Final Phase I *RCRA Facility*

Investigation/Remedial Investigation (RFI/RI) Report, which presents the results of the investigation conducted for OU15.

This public comment period will be from May 17, 1995 to July 17, 1995. A public hearing will be held on June 21, 1995. Comments on the Proposed Plan and Draft Permit Modification and the Final Phase I RFI/RI Report may be submitted orally or in writing at the public hearing. Alternatively, written comments, postmarked no later than July 14, 1995, can be sent to either of the addressees listed below.

Upon timely request, the comment period may be extended. Such a request should be submitted in writing to DOE, postmarked no later than July 14, 1995. FAILURE TO RAISE AN ISSUE OR PROVIDE INFORMATION DURING THE PUBLIC COMMENT PERIOD MAY PREVENT YOU FROM RAISING THAT ISSUE OR SUBMITTING SUCH INFORMATION IN AN APPEAL OF THE AGENCIES' FINAL DECISION.

MARK YOUR CALENDAR: OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Public Comment Period: May 17, 1995 to July 17, 1995

Public Hearing: June 21, 1995

Location: Denver Marriott West
I-70 at Exit 263
1717 Denver West Boulevard
Golden, CO

Time: 7:00 - 8:00 PM

Send Comments To:

DOE's External Affairs Office
P.O. Box 928, Golden, CO 80402-0928

W. Carl Spreng, Geologist
ph: (303) 692-3358
Colorado Department of Public
Health and Environment/HMWMD-HWC-B2
4300 Cherry Creek Drive South
Denver, CO 80222-1530

Information Repositories:

The Proposed Plan, the RFI/RI Report and other documents are available at information repositories at the following locations:

Rocky Flats Public Reading Room
Front Range Community College
Level B
3645 W. 112th Avenue
Westminster, CO 80030

Colorado Department of Public
Health and Environment
Hazardous Materials and Waste
Management Division - Bldg. B2
4300 Cherry Creek Drive South
Denver, CO 80222-1530

Citizens Advisory Board
9035 N. Wadsworth Parkway
Suite 2250
Westminster, CO 80021

Standley Lake Library
8485 Kipling Street
Arvada, CO 80005

U.S. Environmental Protection Agency
Superfund Records Center
5th Floor
999 18th Street
Denver, CO 80202-2466

SITE BACKGROUND

Rocky Flats is located in northern Jefferson County, Colorado (Figure 1). Rocky Flats occupies approximately 6,550 acres of Federal land and is a government-owned and contractor-operated facility that is part of the nationwide nuclear weapons production complex. DOE's former mission at Rocky Flats was to produce components for nuclear weapons from plutonium, uranium and non-radioactive metals. Its current mission is to manage wastes and materials and to cleanup and convert the Rocky Flats site to beneficial use in a manner that is safe, environmentally and socially responsible, physically secure and cost-effective.

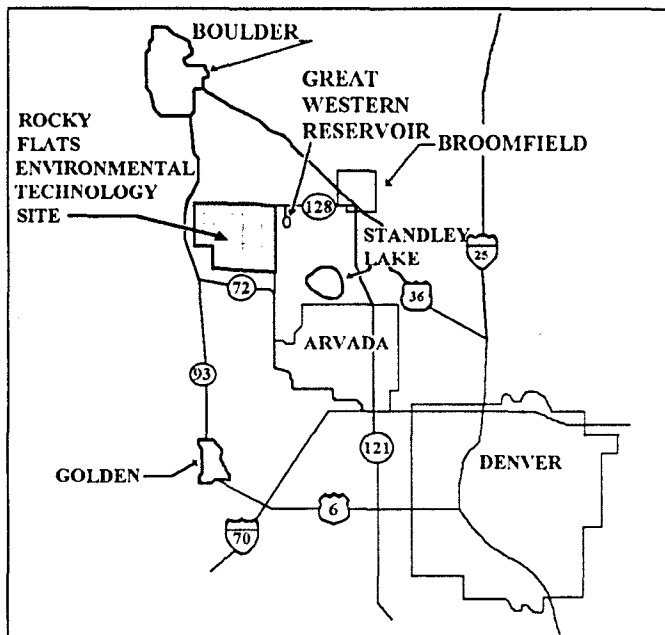


Figure 1
Rocky Flats Environmental Technology Site and Vicinity

Historical waste handling practices involved on-site storage, treatment and disposal of hazardous, *low-level radioactive* and *mixed wastes*. Most plant structures are located within the Rocky Flats Industrial Area, which occupies approximately 400 acres. This area is surrounded by a buffer zone of approximately 6,150 acres. IHSSs within Rocky Flats were defined and grouped into sixteen operable units (OUs). The Inside Building Closures, OU15, consists of six IHSSs and is the subject of this Proposed Plan.

OU15 was originally composed of eight IHSSs; however, IHSSs 212 and 215 are no longer included as part of the OU. The closure of IHSS 212 is now addressed in Part VIII of the Rocky Flats RCRA Mixed Residue Permit Modification. IHSS 215 was transferred to Operable Unit 9 (OU9) and has already been included in the Phase I RFI/RI for OU9. The six remaining OU15 IHSSs are:

- IHSS 178 - Building 881, Drum Storage Area (Room 165);
- IHSS 179 - Building 865, Drum Storage Area (Room 145);
- IHSS 180 - Building 883, Drum Storage Area (Room 104);

- IHSS 204 - Building 447, RCRA Unit 45, Original Uranium Chip Roaster (Rooms 32 and 502);
- IHSS 211 - Building 881, RCRA Unit 26, Drum Storage Area (Room 266B); and
- IHSS 217 - Building 881, RCRA Unit 32, Cyanide Bench Scale Treatment (Room 131C).

The following is a summary of the physical description and operational history of each hazardous substance site:

IHSS 178, Building 881, Drum Storage Area (Room 165). IHSS 178, which has a maximum storage capacity of five 55-gallon drums, was first used in 1953 when Building 881 operations began. The IHSS area consists of two painted circles, each approximately four feet in diameter. The drums stored in the IHSS contained wastes contaminated with solvents and possibly low-level radioactivity. Routine visual monitoring was conducted during the period of operation.

IHSS 179, Building 865, Drum Storage Area (Room 145). IHSS 179, which has a maximum storage capacity of ten 55-gallon drums, was first used for drum storage in 1970. The dimensions of the IHSS are approximately 8 feet by 12 feet. Drums stored in the IHSS contained oils, chlorinated solvents, low-level radioactive waste and possibly beryllium. The IHSS was monitored routinely for spills and releases.

IHSS 180, Building 883, Drum Storage Area (Room 104). IHSS 180, which has a maximum storage capacity of thirty 55-gallon drums, measures 10 feet by 16 feet and was first used for drum storage in 1981. Drums stored in the IHSS contained oils contaminated with solvents, uranium and beryllium. Visual monitoring of the storage area was conducted periodically.

IHSS 204, Building 447, RCRA Unit 45, Original Uranium Chip Roaster (Rooms 32 and 502). IHSS 204, the Original Uranium Chip Roaster, was used historically to oxidize uranium chips coated with small amounts of oils and coolants, converting the elemental uranium to uranium oxide. The unit is cylindrical with a diameter of 5 feet 6 inches and a height of 7 feet 4 inches. The inlet for the unit is located in Room 502 and the outlet is located directly downstairs in Room 32. No hazardous constituents have been treated in this unit since January 1988, when the uranium chips processed in the unit ceased to be coated with oils and coolants.

IHSS 211, Building 881, RCRA Unit 26, Drum Storage Area (Room 266B). IHSS 211, which has a maximum storage capacity of twenty-nine 55-gallon drums, was first used as a drum storage area in 1981. The dimensions of the IHSS are approximately 10 feet by 20 feet. The wastes stored in the unit have historically included low-level radioactive combustibles (rags, wipes, etc.), metals, glass and materials which contained solvents and/or metals generated by laboratories in the building.

IHSS 217, Building 881, RCRA Unit 32, Cyanide Bench Scale Treatment (Room 131C). IHSS 217 consists of a 4 feet by 5 feet painted metal fume hood and laboratory table, three

4-liter polyethylene bottles, a glass beaker and a chlorine-specific ion electrode. The unit was used as a bench scale treatment process to convert cyanide to cyanate. Aqueous cyanide solutions were transferred to the unit for analysis of cyanide content using a cyanide still. Wastes generated from this analysis were collected in the three 4-liter polyethylene bottles and stored in the steel fume hood of the unit. The cyanide solution was treated in one of the 4-liter bottles and then transferred via the process waste line system to the central liquid waste treatment facility in Building 374 for further treatment.

SUMMARY OF SITE RISKS

The risks to human health and the environment associated with the OU15 IHSSs were characterized as part of the OU15 RFI/RI, which was completed in accordance with the requirements presented in the IAG and specifically identified in the Final Phase I RFI/RI Work Plan for OU15. The RFI/RI focused on two primary objectives: first, characterizing the nature and extent of contamination associated with the IHSSs inside the buildings; and second, evaluating the potential for

contaminant migration outside of the buildings. For each IHSS, the investigations involved reviewing historical information, conducting visual inspections and completing sampling and analyses for surface contamination. A detailed discussion of the methods and results is presented in the Final Phase I RFI/RI Report.

In order to determine if releases to the environment had occurred from the OU15 IHSSs, historical information on waste management practices in the IHSSs was reviewed and visual inspections of each IHSS were completed. These inspections focused on identifying evidence of spills or releases and assessing if potential routes existed for the migration of contaminants from the IHSSs to outdoor areas.

Samples were also collected in and around each IHSS and analyzed to characterize the presence or absence of hazardous and radiological constituents associated with the IHSSs. To evaluate risks to workers inside the buildings, the results of the sampling and analysis were compared to a set of protective standards approved as *Applicable or Relevant and Appropriate Requirements (ARARs)* in the Final Phase I RFI/RI Work Plan for OU15.

What are ARARs?

The most important elements in determining the need for remedial action at a CERCLA site (or operable unit) are the overall protection of human health and the environment and compliance with the Applicable or Relevant and Appropriate Requirements (ARARs) selected for the site. ARARs represent a set of protective standards for the site. Applicable requirements are mandated by State or Federal law and specifically address factors such as contaminants and remedial actions. Relevant and appropriate requirements, while not legally applicable, address problems or situations that are similar to those at the site.

For OU15, ARARs were identified for both hazardous constituents (e.g., spent solvents, metals) and radionuclides. The ARARs used to evaluate hazardous constituents were the RCRA clean closure performance standards (6 Colorado Code of Regulations 1007-3, Section 265.111), which specify that the IHSSs must be closed in a manner that protects human health and the environment. The standards were satisfied when analytical results from the samples collected at each IHSS exhibited no traces of hazardous constituents historically managed in the IHSS.

The ARARs established for radionuclides at OU15 focused on the protection of workers in the IHSS areas and were based on Occupational Safety and Health Act standards for ionizing radiation. The specific standards are listed in the Code of Federal Regulations (CFR) and DOE orders, and are presented below:

10 CFR 20, App. B: Protection against radiation;

10 CFR 835: Occupational radiation protection;

29 CFR 1910.96: Ionizing radiation;

DOE Order 5400.5: Radiation protection of the public and the environment (will eventually be replaced by 10 CFR 834); and

DOE Order 5480.11: Radiation protection for occupational workers (to be replaced by 10 CFR 835, effective January 1, 1996).

Two additional standards being developed will also apply to OU15, and are listed below:

10 CFR 834: Radiation protection of the public and the environment; and

40 CFR 196: Radiation site cleanup regulations.

The sampling and analytical results demonstrate that the IHSSs are in compliance with the ARARs specified for hazardous constituents. No hazardous constituents associated with the management of wastes at OU15 were detected in the samples from the IHSSs.

IHSSs 178, 211, and 217 meet the Federal occupational radiation protection standards and pose no unacceptable risk to workers. Based on the contamination levels present at these IHSSs, specific radiological controls are not necessary to meet the worker dose limit standards. IHSSs 179, 180, and 204 are located within radiological control areas, and subject to the procedures presented in the shaded box below.

The results of the sampling and analysis, along with the review of historical records and the visual inspections, indicate that there have not been releases of either hazardous constituents or radiological contamination to the environment external to the buildings containing the OU15 IHSSs. The radiological control program for IHSSs 179, 180, and 204 will assure that no contaminants are released from the buildings. Therefore, these three IHSSs pose no risk to human, plant and animal populations outside of their respective buildings.

SUMMARY OF REMEDIAL ALTERNATIVE

The preferred alternative proposed in this plan for OU15 consists of the following actions: 1) Clean Closure under RCRA for all six of the OU15 IHSSs; 2) a No Action CERCLA decision for IHSSs 178, 211, and 217; and 3) a deferral of any actions at IHSSs 179, 180, and 204 until final disposition of their respective buildings.

Clean closure under RCRA can be concluded since all six IHSSs meet the clean closure requirements of the Rocky Flats RCRA Permit. Closure certifications for the six IHSSs, signed by an independent registered professional engineer, have already been submitted to CDPHE. The No Action CERCLA decision for IHSSs 178, 211, and 217 is based upon the *National Oil and Hazardous Substances Contingency Plan*, which provides for the selection of a No Action alternative when a site or OU is already in a protective state.

The Radiological Control Program

In order to protect individuals at DOE sites and facilities from exposure to radiation and radioactive materials, DOE established practices for the conduct of radiological operations in DOE orders, including 5400.5 and 5480.11. The radiation protection standards for workers were subsequently promulgated as a Federal regulation in 10 CFR 835, under the authority of the Atomic Energy Act. To meet the requirements of this regulation, DOE developed a department-wide Radiological Control Manual. For Rocky Flats, a site-specific Radiological Control Manual has been developed, along with a series of procedures that provide direction for day-to-day activities at the site.

Access to radiation and radioactive materials in Rocky Flats production/processing buildings is managed using the following area designations: uncontrolled, controlled and radiological. The requirements for entering and working within each area are progressively more restrictive and protective. Uncontrolled areas consist of offices, locker rooms and other non-radiological laboratories and process areas and do not require radiological controls. Controlled areas are physically separated from uncontrolled areas and typically encompass large process and storage areas. They do not, themselves, constitute a significant exposure threat to individuals, but instead, identify general areas where radiological operations have been or are being conducted. In contrast, radiological areas, such as Radiation Areas and Contamination Areas, are discreet areas within larger controlled areas that, based on past or current operations, contain specific radiation or radiological hazards.

The requirements that apply for individuals entering and working in controlled and radiological areas are presented in the Rocky Flats Radiological Control Manual and in specific Rocky Flats operating procedures. They encompass training, access control, work control, protective clothing, respiratory protection, radiation monitoring and radiation dose limits. The requirements are selected and implemented for each area based on the type of area, the levels of radiation and contamination and the hazards present. The controls necessary to protect individuals from occupational exposures in work areas at Rocky Flats, such as the OU15 IHSSs, are continuously reviewed and modified as needed, based on changing requirements and conditions in the work areas. In addition, the Rocky Flats radiological control program includes provisions for recordkeeping, reporting and program assessment. All six of the OU15 IHSSs fall under the requirements of the Rocky Flats radiological control program, although only IHSSs 179, 180, and 204 are located within controlled areas.

As a matter of policy, DOE is also committed to limiting personal radiation exposure to levels As Low As Reasonably Achievable. DOE specifies that radiation exposure of the work force and public should be controlled such that exposures are well below regulatory limits. DOE also states that there should not be any radiation exposure to workers without the expectation of an overall benefit from the activity causing the exposure.

IHSSs 179, 180, and 204 are within radiological control areas at Rocky Flats and actions at these IHSSs are deferred until final disposition of the buildings in which they are located.

GLOSSARY

Applicable or Relevant and Appropriate Requirements (ARARs): Media-specific (e.g., soil, water) concentration limits or other standards developed for a variety of contaminants including hazardous and radioactive constituents. ARARs are based on an evaluation of several factors including land use, potentially exposed populations and State and Federal regulations and guidance documents.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA): A Federal law passed in 1980 that establishes a program to identify abandoned hazardous waste sites, ensures that they are cleaned up, evaluates damages to natural resources and creates claims procedures for parties who cleaned up the sites. The scope of CERCLA was expanded in 1986 by the Superfund Amendments and Reauthorization Act, which, among other things, guarantees greater public input and involvement in remedy selection and cleanup activities.

Individual Hazardous Substance Site (IHSS): An area which is identified for investigation as a result of previous operations and disposal practices.

Interagency Agreement (IAG): The January 22, 1991 document prepared by representatives from DOE, EPA and CDPHE. It presents the objectives and general protocols for addressing the cleanup or evaluation of each of the operable units at the Rocky Flats Environmental Technology Site.

Low-level Radioactive Waste: Material having no economic value that is contaminated with transuranic elements (i.e., americium and plutonium) at a level of specific activity less than or equal to 100 nanoCuries per gram of waste material, or wastes contaminated with uranium in any quantity.

Mixed Waste: Waste that contains both hazardous constituents and radioactive contaminants.

National Oil and Hazardous Substances Contingency Plan (NCP): Federal regulations (40 CFR Part 300) that implement the requirements of CERCLA. The NCP sets forth a hazard ranking system and procedures and standards for responding to hazardous releases.

Operable Unit (OU): A term used to describe a certain portion of a CERCLA site. An operable unit may be established based on a particular type of contamination, contaminated media (e.g., soil, water), source of contamination and/or geographical location.

Preferred Alternative: The protective, ARAR-compliant approach that is judged to provide the best balance of tradeoffs with respect to long- and short-term effectiveness, implementability, cost and the reduction of contaminant toxicity, mobility, or volume through treatment.

Protective State: In compliance with relevant State and Federal requirements for protection of public health and the environment.

Record of Decision: A public decision document that presents the cleanup alternative(s) selected for a CERCLA site. It is based on information from the Remedial Investigation and Feasibility Study, public comments and community concerns.

RCRA Facility Investigation/Remedial Investigation (RFI/RI): An environmental and site impacts study conducted to satisfy the requirements of RCRA and CERCLA.

Resource Conservation and Recovery Act (RCRA): A Federal law passed in 1976 that is designed to require the "cradle-to-grave" management of hazardous waste. CDPHE, through the Hazardous Materials and Waste Management Division, implements RCRA in Colorado. CDPHE has issued a RCRA operating permit for Rocky Flats.

Risk: The likelihood of an adverse effect on the health of a human or ecological population as a result of exposure to chemical or radiological constituents.

If you did not receive this Proposed Plan in the mail and would like to be included in the mailing list for future information, please mail this completed form to:

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